

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated June 29, 2006. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

Claims 1-10, 12-16 and 19-21 are under consideration in this application. Claims 11-12 and 17-18 are being cancelled without prejudice or disclaimer. Claims 1-10, 12-16 and 19 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim applicants' invention. Claims 20-21 are being added.

All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejection

Claims 2 and 6 were rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential steps. Claims 1-4 and 6-19 were rejected under 35 U.S.C. § 101 for claiming non-statutory subject matter.

As the independent claims now recite essential steps and clarify the language as required by the Examiner, the withdrawal of the outstanding 112 rejection is in order, and is therefore respectfully solicited.

As the independent claims now recite a last step of "automatically linking and displaying the starting database, the intervening databases, and the terminal database linked as search path candidates" for a practical application of the invention in the technological art of gene/biopolymer analysis. Applicants contend that such a step allows one skilled in the art to view possible candidate paths thereby narrow down to only those that go through desired databases (p. 12) so as to fetch and analyze desired information therefrom is very useful, especially when a number of the databases is large. This result "*is concrete, tangible and useful*. See *AT&T*, 172 F.3d at 1358, 50 USPQ2d at 1452" such that the methods as now

claimed are statutory process claims. *“What is determinative is not how the computer performs the process, but what the computer does to achieve a practical application. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036.”* MPEP 2106 (IV)(b)(ii) Computer-Related Processes Limited to a Practical Application in the Technological Arts. Accordingly, the withdrawal of the outstanding 101 rejection is in order, and is therefore respectfully solicited.

Double Patenting Rejection

Claims 1 and 6 were provisionally rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of a co-pending application 10/805,376. The Examiner contended that although the claims are not identical, however, they are not patentably distinct.

Applicants contend that claim 1 of the co-pending application recites distinctive “grouping” limitations of “a first step of classifying the plurality of databases into groups based on the characteristics of data included in individual databases; a second step of creating a correlation network wherein the groups are related with each other based on relevance between the groups; a third step of obtaining inter-group path candidates in the correlation network” that are absent from claim 1 of the current application. Accordingly, the withdrawal of the outstanding double patenting rejection is in order, and is therefore respectfully solicited.

Prior Art Rejections

Claims 1-19 were rejected under 35 U.S.C. §102(e) as being anticipated by US 2004/0049510 of Munch et al. (hereinafter “Munch”). This rejection has been carefully considered, but is most respectfully traversed in view of the cited reference.

The method of designating a database search path of the invention (for example, the embodiment depicted in Fig. 10), as now recited in claim 1, comprises: a first step of automatically displaying databases A-G to be designated as search targets in the form of figures on a screen (e.g., Fig. 3), each of the databases containing records (e.g., 1st row of the Table in Fig. 2) with search keys of related records stored in other databases (e.g., A0001 and the relevant description corresponding to B0001, B0002, B0003); a second step of designating two figures of databases A, D as a starting database and a terminal database respectively; a third step of automatically carrying out a chain-reactive retrieval of search

keys and records by entering a starting search key (e.g., a gene sequence, p. 8, line 22) by a user into the starting database A to retrieve a record therefrom, and automatically retrieving a next search key which is different from the starting search key and contained in said retrieved record, and automatically entering the next search key into a next database to retrieve a next record therefrom in a chain-reactive manner from the starting database A via a plurality of intervening databases to the terminal database D (p. 11, last paragraph; hereinafter “the (I) feature”); and a fourth step of automatically linking and displaying the starting database A, the intervening databases, and the terminal database D linked as search path candidates (e.g., A->B->E->F->D in Fig. 7, A->B->C->D in Fig. 8). (hereinafter steps 1 & 4 as “the (I) feature”)

As recited in claim 2, the third step includes the step of displaying in highlight a database search path selected among the search path candidates (e.g., Fig. 7). As recited in claim 3, the third step includes the step of selecting the database search path by designating an intervening database E to be included therein such that the database search path A->B->E->F->D (Fig. 7) passes through said designated intervening database E, the starting database A and the terminal database D (p. 10 , 2nd paragraph). As recited in claim 4 the third step includes the step of selecting the database search path by designating an intervening database E to be eliminated therefrom such that the database search path A->B->C->D (Fig. 8) does not pass through said designated intervening database E (hereinafter claims 2-4 as “the (II) feature”).

As recited in claim 13, the method further comprises at least one of: a step of displaying, upon designation of the starting search key, only databases that can be searched with the starting search key (e.g., a gene sequence) in highlight as the starting database candidates on the screen distinguishing from other databases (p. 8, lines 22-27); and a step of displaying, upon designation of the starting database A, only next databases D, F, G that contain a next search key and a next record in highlight to be designated as the terminal database on the screen distinguishing from other databases (Fig. 4; p. 9, 2nd paragraph; hereinafter “the (III) feature”).

The invention recited in claim 6 is directed to a program for causing a computer to carry out the method of designating a database search path as recited in claim 1.

Applicants respectfully contend that the cited references fail to teach the (I) feature of “**displaying** all databases and then **displaying** the starting database A, the intervening databases, and the terminal database D linked via the chain-reaction manner as search path

candidates” as recited in claims 1 and 6, the (II) feature of “displaying a highlighted database search path and allowing a user to include or exclude a displayed database in a displayed database chain on a screen” as recited in claims 2-4 and 7-9, and the (III) feature of “displaying highlighted starting or terminal database candidates on the screen” as recited in claims 10, 13-16 and 19-21.

In contrast, the relevant portions of Munch as relied upon by the Examiner simply do not teach or suggest the (I)-(III) features of the present invention.

Regarding the (I) feature of the present invention, Munch is directed to simultaneously searching among databases of different data structures (Abstract). On the other hand, this invention concerns displaying and then selecting among a significant number of displayed databases established via the chain-reaction search to provide search path candidates based upon a starting search key entered by a user.

In Munch, Fig. 2 shows the result of search of a subsequent reaction database, and Fig. 4 shows the result of search of a subsequent reaction database. As is obvious from Figs. 2 & 4 and the relevant description in [0008] etc., Munch merely displays searched “**data objects**” (such as compounds cholesterol, ergosterol, lanosterol, sitosterol, etc. as searched objects) on the screen, rather than any “**databases**” (such as A-G of the invention, or “*databases on compounds, proteins, taxa of organisms and reaction pathways*” in [0002] of Munch) as searched objects in a chain reaction manner on the screen (Figs. 3-8), according to the present invention.

Although Par. [0095] describes a chain-reactive search, it involve databases behind the scene, rather than being displayed as Figs. 3-8 of the present invention for the user to see the chains of databases on the screen and to design a starting database and a terminal database accordingly.

Paragraph [0009] of the reference reads: “...*the database that is to become a target for automatic linkage can be set by the user using an appropriate interface prior to search...*,” which does not describe any figure of a database being designated, as according to the present invention. Paragraph [0033] only describes the output of search results, and does not disclose or suggest the designation of a database as a search object.

Paragraph [0058] reads: “*The user accesses a plurality of databases related to compounds, proteins, classes, or biological reaction paths, via a user interface. Each database is assigned to a window for displaying the result of search in this database. The user has a mask or other input means for entering an' inquiry to these databases. Such input*

means is provided in the window assigned to the relevant database, or it is formed in a separate window so that an inquiry can be entered into one, two, or all of the databases.”

However, the reference does not disclose or suggest that a figure corresponding to a database is designated as a first database or a terminal database.

Regarding the (II) feature of the present invention, Munch's Paragraphs [0057] and [0104] only describe the resulting “data objects” of a search, rather than any resulting “databases” of a search. Since Munch does not display databases in chains, Munch simply does not highlight one of the search path candidates as a database search path as recited in claims 2 and 7. Munch further does not allow a user to include or exclude a database in a displayed database chain as recited claims 3-4 nor the steps for narrowing the database search paths as recited in claims 8-9.

Regarding the (III) feature of the present invention, since Munch does not display databases in chains, Munch simply does not “display highlighted starting or terminal database candidates on the screen” as recited in claims 10, 13-16 and 19-21.

Applicants contend that the references cited by the Examiner fail to teach or suggest each and every feature of the present invention as disclosed in independent claims 1 and 6 or their dependant claims. As such, the present invention as now claimed is distinguishable and thereby allowable over the prior art rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

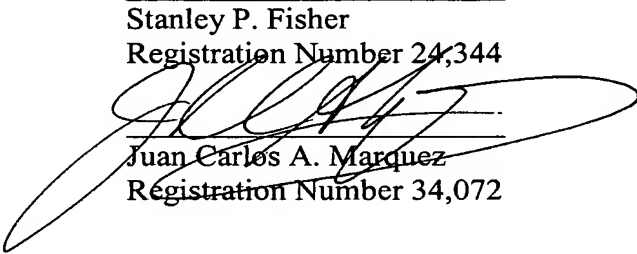
Conclusion

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference as a whole, Applicants respectfully contend that the prior art cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and telephone number indicated below.

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